

1                    EXPANDABLE ELEVATING BOLSTER FOR LEGS AND BACK

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3            Priority

4            This invention is based on U. S. Provisional Application, Serial Number 60/410,248,  
5            filed September 12, 2002.  
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7            Field of the Invention

8            This invention relates generally to devices to aid in blood circulation and more  
9            particularly to a bolster to support and elevate a portion of a person's body.  
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11           Background Information

12           When there is obstruction from proximal pressure or some other impeding condition,  
13           the return of blood and lymph fluid proximal to the heart and chest results in pain, swelling,  
14           ulceration, pigmentation, and other maladies of the lower extremity. Injuries such as  
15           fractures, lacerations, contusions, for example, that are accompanied with tissue swelling  
16           similarly decrease the natural return of blood and lymph. Such may result in longer healing  
17           processes. When blood pools in the deep venous system thrombophlebitis and lymph edema  
18           can occur from simple external pressure to the calf or a prolonged dependent position.

19           External compression dressings help to overcome these problems, but the most  
20           effective method is simply to elevate the lower extremity above the level of the heart. In  
21           such a position gravity accompanied by the muscular contraction and the negative venous  
22           pressure supplied by the normal cardiac contractions will rapidly resolve the peripheral

1 edema in most instances. Following childbirth and certain operative procedures, in order to  
2 prevent both superficial and deep phlebitis, the legs are elevated. Many methods of doing  
3 this are ineffective or dangerous. Such is found when pillows are placed beneath the calves.  
4 Other methods include elevating the bottom and the head of special hospital type beds. This  
5 results in pooling blood in the pelvis and setting the stage for a pelvic phlebitis. Still other  
6 methods to elevate the bed require placing a chair or some sort of jack under the foot of the  
7 bed. This is cumbersome and the angle of elevation is severely limited.

#### 8 9 SUMMARY OF THE INVENTION

10 With the same apparatus, elevation of the head and back of the person in bed is also  
11 possible. By simply reversing the apparatus, the head and shoulders or a reclining individual  
12 can be elevated to a secure and comfortable position.

13 Moreover, in order to prevent the apparatus from changing position, the base is covered  
14 by a material with a high coefficient of friction so that it is superficially adherent to the  
15 ordinary sheets.

16 Attention is addressed to the material used to construct the apparatus so that it is safe,  
17 effective, light weight, simple, and comfortable.

18 Other objectives and advantages of this invention will become apparent from the  
19 following description taken in conjunction with the accompanying drawings wherein are set  
20 forth, by way of illustration and example, certain embodiments of this invention. The  
21 drawings constitute a part of this specification and include exemplary embodiments of the  
22 present invention and illustrate various objects and features thereof.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

Fig. 1 is a side view of the apparatus of this invention; and

Fig. 2 is an end view of the apparatus of Fig. 1.

## **DETAILED DESCRIPTION**

Although the invention has been described in terms of a specific embodiment, it will be readily apparent to those skilled in this art that various modifications, rearrangements and substitutions can be made without departing from the spirit of the invention. The scope of the invention is defined by the claims appended hereto.

Fig. 1 shows the lateral view of an apparatus 10 and the component parts of an expandable elevating bolster for the legs and back. It is comprised of three main members: an end member 1, a center member 2, and base member 3. End member 1 is attached at its superior end to center member 2 with through connectors 14 to a hinge 6. At the inferior end, center member 2 is attached to the base member 3 by flexible joints 10.

A ratchet device 5 with multiple slanted depressions or detents 8 is fixedly attached, approximately midway, with through connectors 14 to the base member 3. The free end of the end member 1 cooperates with the ratchet 5 to form a triangular shaped frame. The interior angles of the triangular shaped frame are adjustable as the free end of end member 1 engages different ratchet positions.

Attached to the upper surface of member 2 is a cover 11 on which is fixedly attached a soft surface with lateral elevations 7. The cover 11 or the top portion of the cover for the soft surface extends past the joints 10 to rest on the surface 4 on which the entire apparatus is

1 positioned. Pillows 12 and stick figures 13 demonstrate the alternate positions with foot or  
2 head elevated on the apparatus.

3 The invention is used for therapeutic purposes and for comfort when elevation of the  
4 head and torso or the legs is preferable to the supine state. The apparatus 10 rest on a surface  
5 4 and is comprised of three main parts: 1, 2, and 3. Member 1 is attached to member 2 by a  
6 hinge 6 that may be inside or outside the attached site and permits free movement to member  
7 1. Member two is attached to member three at the other end by flexible joints 10. A member  
8 14 that has multiple deep depressions 8 is fixedly attached to member 3. By placing member  
9 1 in various depressions 8 in 14, the angle of elevation of member 2 is changed. Between the  
10 members 2 is attached a sturdy material 9 on whose surface placed a soft pad with elevations  
11 along the sides 7. The covering of the pad extends past the flexible joints 10 to rest on the  
12 surface 4 in order for the body weight to keep the apparatus from moving. The two positions  
13 of application are depicted by stick Figure 13 and pillows 12.

14 It is to be understood that while I have illustrated and described certain forms of my  
15 invention, it is not to be limited to the specific forms or arrangement of parts herein  
16 described and shown. It will be apparent to those skilled in the art that various changes may  
17 be made without departing from the scope of the invention and the invention is not to be  
18 considered limited to what is shown in the drawings and described in the specification.